Synth sound creation using the ES2

For each of these sounds, I used the ES2 Synthesiser in Logic Pro X to create the sounds, starting with a tutorial setting called “Analogue saw init” which doesn’t have much editing already on it, so I could start from a blank slate.

Helicopter Synthesiser

- For this patch I started using a white noise sound, created here by Oscillator 3
- I then Selected for the cutoff frequency to be modulated by an LFO, creating a choppy sound, reminiscent of a helicopter. I changed the control voltage until it sounded similar to a helicopter's blades spinning.
- I then set the LFO rate to be controlled by the pitch bender, So that this could be changed, to emulate a helicopter’s blade speed changing upon takeoff and landing. I edited the control voltage until I felt it had enough range to go from slow enough on takeoff and landing, to fast enough to sound like full speed rotors.
- Example of helicopter patch, with the speed change created using the bender

Violin Synthesiser

- For this patch I started using a combination of two synced up sawtooth waves, and a wave preset called “Mean2” which sounds similar to a square wave.
- I set the main cutoff around 6/10, but blended in a cutoff of around 8/10 to add some higher harmonics contributing to a more ‘scratchy’ sound, alike a violin.
- I also used the distortion on this, 20dB of drive, with the tone set fairly dark, around 5 kHz, just to add some extra harmonics, and create a more typical harsh sound of a violin, without going overboard on higher order harmonics.
- I set the amplifier to an envelope, that gives the violin a slightly slower attack, more realistic to how it would be played.
- I also affected the pitch with an lfo, to simulate vibrato in playing, with a delay that means the vibrato starts 1 second after the instrument start playing

- [Example of the Violin Patch]

Electric Bass Synthesiser

- I started with a combination of a square, and a sawtooth wave in this case.
- I also set the cutoff fairly low to remove unnecessary high frequencies, as well as blending a cutoff even lower, that added some extra low end to the sound and made it feel more solid. I had a fairly low blend of this however, as further blend made the sound too boomy.
- I distorted this as well, which gave it a less “clean” sound, and so it sounded slightly less electronic.
- I affected the main cutoff frequency using the same envelope as for volume. I gave it a lower sustaining volume than full, and a 110 ms decay, which made it have a slightly higher cutoff, and louder volume at the initial part of the sound. This gave it the “Pluck” sound
- [Example of the Electric Bass Patch]

Snare Drum Synthesiser

- For this patch I started with a white noise oscillator, which sounds similar to the rattle of snare wires on a drum.
- I used a lowpass filter to take out some of the high harmonics that created a harsher sound than most snare drums.
- I also used distortion to add more of a grinding sound to it, and add some grit in.
- I then affected the cut off from envelope 2, lowering sustain volume and increasing decay, to give it a strong sounding attack, similar to a real drum.
- I did a similar thing with Envelope 3 controlling the volume of the sound. This I had a lower sustain and longer decay than for the cutoff. I spent some time fine tuning the decay to get the appropriate amount of attack out of the sound. I then added some release that gives the snare a longer

sound, and sounds more like a snare that could be used in some songs, with a somewhat 80’s vibe.

- Example of the snare patch